



LBB 1990/00 Plena Voice Alarm Controller



- ▶ Heart of the Plena Voice Alarm System
- ▶ Compliant with standards for emergency sound systems (IEC60849)
- ▶ 6-zone system controller
- ▶ Built-in 240 W booster amplifier
- ▶ 12 Business and emergency control inputs and outputs

The Plena Voice Alarm Controller is the heart of the voice alarm system. It is the basis of the Plena Voice Alarm System, and has all the essential functionality for compliance with the IEC 60849 standard, including full system supervision, loudspeaker line impedance supervision, a supervised emergency microphone on the front panel and a supervised message manager. The messages can be merged to allow even more flexible use of pre-recorded announcements and evacuation messages. The controller can be used as a stand-alone system with up to 6 zones, or expanded to up to 60 zones using additional 6-zone routers. Up to 8 call stations can be connected. Interconnections are made using standard RJ45 connectors and shielded CAT-5 cable.

A built-in 240 W amplifier provides the power for the emergency call channel and BGM. Additional Plena Amplifiers can be added to provide two-channel operation, or for additional power if the total power requirement exceeds 240 W (maximum 480 W per 6 zones). All amplifiers are supervised. The audio output uses standard analog audio 100 V line switching for full compatibility with the Plena family of public address equipment and Bosch EVAC-compliant loudspeakers. The system is configured using DIP switches for basic functionality and a PC for more advanced functions.

Functions

The controller has two BGM source inputs and a mic/line input with configurable priority, speech filter, phantom power and selectable VOX activation. A total of 16 priority levels can be specified for microphone, call stations and trigger inputs for optimum system flexibility.

The powerful 240 W output section has six transformer-isolated 100 V constant voltage outputs for driving 100 V loudspeakers in six separate zones. The 100 V-technique reduces line losses on longer distances and allows for easy parallel connection of multiple loudspeakers. All zones may be individually selected from the front panel, and the BGM output level in each zone can be individually set in 6 steps. The BGM output is connected to the 70 V line, so it is possible to connect a total load of 480 Watts in a two-channel system combined with a 480 Watt booster.

The output of the booster is also available as a separate output on 100 V and 70 V. A separate 100 V Call Only output is provided for addressing an area where BGM is not required but where priority announcements are. Six configurable Volume Override output contacts are available for overriding local volume controls during priority calls. A LED VU-meter monitors the output. Up to 255 messages can be stored in the internal 16 MB flash ROM, without a need for battery backup.

Each message can have any length within the total available capacity. Messages and configurations are uploaded from a PC via USB into the memory, after which the unit operates without PC connection. The standard WAV-format is used for the messages and sample rates of 8 kHz up to 24 kHz with 16-bit word length (linear PCM) are supported. This gives up to 17 minutes of recording time with CD-quality signal-to-noise ratio.

The unit has 12 contact trigger inputs for business and emergency (EMG) calls. Each can be configured for a message consisting of a sequence of up to 8 wave files. In this way some wave files may be used in different combinations with other messages, optimizing flexibility and used storage space. Multiple messages can be merged to form one integrated message. Together with this sequence, for each trigger input, a zone selection can be configured.

Certifications and Approvals

EMC emission	acc. to EN 55103-1
EVAC compliance	acc. to IEC 60849
EMC immunity	acc. to EN 55103-2
Safety	acc. to EN 60065

Installation/Configuration Notes



Rear view

Parts Included

Quantity	Component
1	LBB 1990/00 Plena Voice Alarm Controller
2	19" Mounting brackets
1	Mains cable
1	Plena CD

Technical Specifications

Electrical

Mains Voltage	230 / 115 VAC, $\pm 10\%$, 50 / 60 Hz
Main Power Consumption	60 VA
Max/Rated Output Power	360 W / 240 W
Battery Current	24VDC, +20% / -10%
Max Mains Inrush Current	8A @ 230 VAC / 16A @ 115 VAC
Mains Current	
System Idle	0.26 A = 60 VA
System Idle with Pilot Tone	0.6 A = 136 VA
Maximum Load ^{*)}	3.6 A = 830 VA
24 V Current	
System Idle	0.9 A
Maximum Load*	14 A

Performance

Frequency Response	60 Hz – 18 kHz (+1/-3 dB, @ -10 dB ref. rated output)
Distortion	<1% @ rated output, 1 kHz
Bass Control	-8/+8 dB @ 100 Hz
Treble Control	-8/+8 dB @ 10 kHz

Inputs Mic / Line

Input Type	XLR, 6.3 mm jack
Sensitivity	1 mV / 1V
S/N	63 dB (flat at max volume)
S/N	75 dB (flat at min volume/muted)
Headroom	25 dB
Speech Filter	-3 dB @ 315 Hz, high-pass, 6 dB/oct
Phantom Power Supply	12 V
VOX Trigger Level	-20 dB (100 V mic / 100 mV line) or via input contact

Limiter	Automatic
BGM and PC Call Station	
Input Type	Cinch stereo (converted to mono)
Input Level	200 mV – 2 V
Impedance	22 kOhm
S/N	70 dB (flat at max volume)
S/N	75 dB (flat at min volume/muted)
Headroom	25 dB

Trigger Inputs	6 EMG, 6 business
Type	MC1,5/14-ST-3,5
Activation	Programmable
Supervision	On EMG inputs, programmable
Supervision Method	Series / parallel resistor
100 V Input	MSTB 2,5 / 16-ST
Power Handling Capacity	480 Watts

^{*)} Maximum load means; maximum power out, maximum load 24V out, maximum number of call stations

Outputs

Tape Output	Cinch, 2x mono
Nominal Level	350 mV
Impedance	<1 kOhm
Loudspeaker Outputs	MSTB 2,5 /16-ST floating
100 V Outputs	480 W rated per zone
Volume Override Type	3 wire, 4 wire (24V), 4 wire failsafe
BGM Zone Output Attenuation	70/50/35/25/18/13 V for 0/-3/-6/-9/-12/-15 dB (120/60/30/15/8/4 W)

Output Contacts

All Contacts	
Connector Type	MC 1,5/14-ST-3,5
Rating	250 V 7A voltage free
Emergency Active Relay	NO / COM / NC
Call Active Relay	NO / COM / NC
Fault Relay	NO / COM / NC normally energized (failsafe)
General Purpose Relays (2x)	NO / COM

Environmental

Operating Temperature	+5°C to +55°C
Storage Temperature	-25°C to +55°C
Relative Humidity	<95%
Acoustic Noise Level of Fan	<48 dB SPL @ 1m, at max speed temperature controlled 0 to max speed
Dimensions	144 x 430 x 360 mm (19" wide, 3U high)
Weight	approx. 15 kg
Rack Building	Rack mounting kit included

Messages

Data Format	WAV-file, 16-bit PCM, mono
Supported Sample Rates (fs)	24 kHz, 22.05 kHz, 16 kHz, 12 kHz, 11.025 kHz, 8 kHz
Frequency Response	
@ fs = 24kHz	100 Hz – 11 kHz (+1/-3 dB)
@ fs = 22.05kHz	100 Hz – 10 kHz (+1/-3 dB)
@ fs = 16kHz	100 Hz – 7.3 kHz (+1/-3 dB)
@ fs = 12kHz	100 Hz – 5.5 kHz (+1/-3 dB)
@ fs = 11.025kHz	100 Hz – 5 kHz (+1/-3 dB)
@ fs = 8kHz	100 Hz – 3.6 kHz (+1/-3 dB)
Distortion	<0.1% @ 1 kHz
S/N (flat at max volume)	>80 dB
Memory Capacity	16 MB Flash ROM
Recording / Playback Time	1000 seconds @ fs = 8 kHz 333 seconds @ fs = 24 kHz
Number of Messages	Max. 255

Supervision Flash ROM	Continuous checksum control
Supervision DAC	1 Hz pilot tone
Data Retention Time	>10 years

Ordering Information**Model | Description**

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